

communication system include multi-processor architectures where the multi-tasking of received multimedia data packets may be replaced by parallel processing, or in special purpose hardware. In dedicated hardware, each CPacketStream could be a special purpose microprogrammed integrated circuit, where one chip would be required for each media type, and for each connection.

Figures 14 through 18 illustrate the various capabilities of the present system of multiple media digital communication. Figure 14 illustrates a standard video call of the type shown in figure 2 over an ethernet network of the type illustrated. Figure 15 illustrates a video call with collaborative data over an ethernet network of the type illustrated on the screen in figure 3. This configuration is contemplated as the most common type of multimedia call.

Figure 16 illustrates a one way video/audio call with collaborative data over an ethernet network. The data is one way because first party did not answer, but that party was configured to accept messages. The received data is recorded in memory or on disk and played back later, thus creating a multimedia message answering machine. In the message record mode, system delays are not limiting because the message does not have to be recorded in real time; the only requirement is to play it back in real time. The message is recorded on one machine, and sent as a complete message file to the other machine, and there stored on the drive.

A three way videoconference call is illustrated in figure 17. Caller 1, caller 2 and caller 3 are connected over an ethernet communication system. Each caller broadcasts multimedia digital packets to the other two callers. The connection may be expanded to more than three callers. Each caller will see a video image of all the other conferences on their screen in separate windows, as well as hear the conversation and view collaborative data.

An alternate embodiment for a three way videoconference call is illustrated in figure 19. Two callers (1 and 3) are on ethernet. Another caller, 2 is connected by modem. Caller 3 links caller 1 to caller 2. To link callers 1 and 2, caller 3 rebroadcasts received data packets from caller 1 over ethernet, to caller 3 over modem, and vice versa.